

# PATENT COOPERATION TREATY

2-1

From the INTERNATIONAL SEARCHING AUTHORITY

PCT

To:  
IP QINETIQ FORMALITIES  
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UNITED KINGDOM

INVITATION TO PAY ADDITIONAL FEES

(PCT Article 17(3)(a) and Rule 40.1)

REGISTERED MAIL

Applicant's or agent's file reference IP/P3313/WOD		Date of mailing (day/month/year) 19/03/2004 X
International application No. PCT/GB 03/04916		PAYMENT DUE X within 30 <del>XXXX</del> days from the above date of mailing X
Applicant QINETIQ LIMITED		International filing date (day/month/year) 13/11/2003

## 1. This International Searching Authority

Dre 18apr 2004

- (i) considers that there are 2 (number of) inventions claimed in the international application covered by the claims indicated ~~XXXX~~ on the extra sheet:

and it considers that the international application does not comply with the requirements of unity of invention (Rules 13.1, 13.2 and 13.3) for the reasons indicated ~~XXXX~~ on the extra sheet:

Cl 1 updated ✓

- (ii) ☒ has carried out a partial international search (see Annex) ☐ will establish the international search report on those parts of the international application which relate to the invention first mentioned in claims Nos.:

see annex

- (iii) will establish the international search report on the other parts of the international application only if, and to the extent to which, additional fees are paid


## 2. The applicant is hereby invited, within the time limit indicated above, to pay the amount indicated below:

EUR 945.00 x 1 = + EUR 945.00 X  
Fee per additional invention number of additional inventions total amount of additional fees

Or, \_\_\_\_\_ x \_\_\_\_\_ = \_\_\_\_\_

The applicant is informed that, according to Rule 40.2(c), the payment of any additional fee may be made under protest, i.e., a reasoned statement to the effect that the international application complies with the requirement of unity of invention or that the amount of the required additional fee is excessive.

3. ☐ Claim(s) Nos. \_\_\_\_\_ have been found to be unsearchable under Article 17(2)(b) because of defects under Article 17(2)(a) and therefore have not been included with any invention.

Name and mailing address of the International Searching Authority  European Patent Office, P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Authorized officer Petros Koutsoftas
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This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-9,17-22,27-30

relate to a first mitotic feature detection X, ref. sign 20 in Fig. 1, pg. 16 line 21-pg. 25 line 26, compare also, for example, claim 3 with the table on pg. 23.

2. Claims: 10-16,23-26,31-34

relate to an alternative mitotic feature detection process Y, reference sign 24 in figure 1, page 25 line 27-page 29 line 22, compare also, for example, claims 10,11 with pseudocode on pg. 29 lines 14-22.

For the sake of clarity it must be noted already here that the claims of this group appear to contradict the teaching of the description in so far as they base thresholding directly on the intensity profiles of an image region instead of respectively rebinned histograms of these profiles (cf. pp. 28-29 in particular, l. 27-32 of pg. 28 and lines 14-20 of pg. 29).

The two mitotic feature detection processes are alternative solutions to the common problem of measuring mitotic activity from images of histopathological specimen.

This image processing problem per se is known from, for example, XP10074652, abstract, sections "Method" and "Cell Classification".

The two solutions to this problem involve only known common image processing elements, such as, further processing regions of potentially mitotic figures and the use of thresholding of some quantities. These elements are also known from the cited document, cf. i.a. pg. 373 left col. paragraph 3.

Since the common elements are thus known and/or trivial no common inventive technical relationship involving one or more of the same or corresponding special technical features can be found in the two alternative ways of solving the technical problem: for example, the intensity profiles cited in claim 10 of group 2 are not mentioned at all in claim 1 of group 1. The particular manner of thresholding taught in claim 10 has no analogue in claim 1 (In claim 10 thresholding is based on - rebinned histograms of - intensity profile data and it is checked whether the "... profile has a value greater than a prearranged threshold at a position in the profile..").

Hence the requirements for unity of invention (Rule 13 PCT) are not fulfilled. Rather separate searches are needed.

**Annex to Form PCT/ISA/206  
COMMUNICATION RELATING TO THE RESULTS  
OF THE PARTIAL INTERNATIONAL SEARCH**

International Application No  
**PCT/GB 03/04916**

1. The present communication is an Annex to the invitation to pay additional fees (Form PCT/ISA/206). It shows the results of the international search established on the parts of the international application which relate to the invention first mentioned in claims Nos.:  
**1-9, 17-22, 27-30**
2. This communication is not the international search report which will be established according to Article 18 and Rule 43.
3. If the applicant does not pay any additional search fees, the information appearing in this communication will be considered as the result of the international search and will be included as such in the international search report.
4. If the applicant pays additional fees, the international search report will contain both the information appearing in this communication and the results of the international search on other parts of the international application for which such fees will have been paid.

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	MADACHY R J ET AL: "Image analysis for automatic classification of MITOTIC cervical cells" IEEE ENGINEERING IN MEDICINE & BIOLOGY SOCIETY, 10TH ANNUAL INT. CONFERENCE, 4 November 1988 (1988-11-04), pages 372-374, XP010074652 the whole document ----	1-9, 17-22, 27-30
A	US 5 526 258 A (BACUS JAMES W) 11 June 1996 (1996-06-11)  the whole document ----	1-9, 17-22, 27-30
A	SUNDBLAD LARS-GORAN ET AL: "The use of image analysis and automation for measuring mitotic index in apical conifer mersitems" JOURNAL OF EXPERIMENTAL BOTANY, OXFORD UNIVERSITY PRESS, GB, vol. 49, no. 327, October 1998 (1998-10), pages 1749-1756, XP002233559 ISSN: 0022-0957 the whole document -----	1-9, 17-22, 27-30

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

\* Special categories of cited documents:

\*A\* document defining the general state of the art which is not considered to be of particular relevance

\*E\* earlier document but published on or after the international filing date

\*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

\*O\* document referring to an oral disclosure, use, exhibition or other means

\*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\*&\* document member of the same patent family

